



JQA-QMA16427



To eco-drive era of the motor

**SMACH turns smart  
in any motor.**



**SMACH**

SMART TECHNOLOGY

**Universal Inverter Driver**



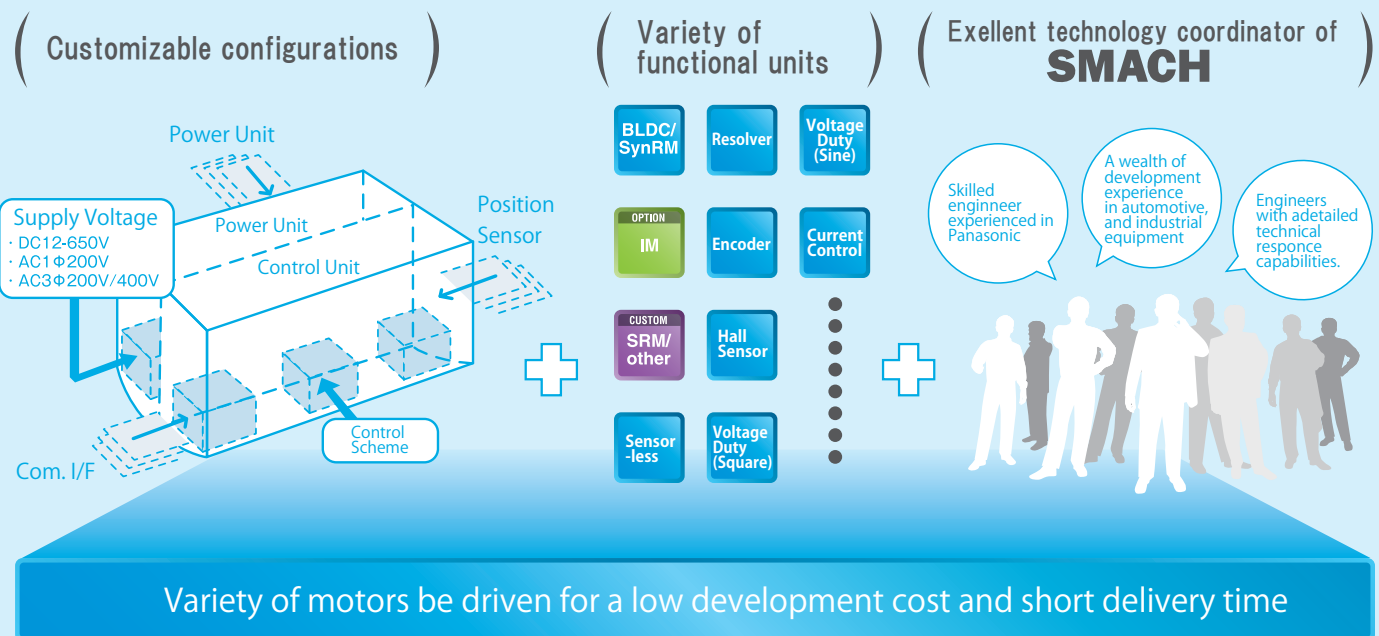
**SMACH CO.,Ltd.**

# Packed with SMACH's technologies! Motor Driver that "CAN" drive variety of motors

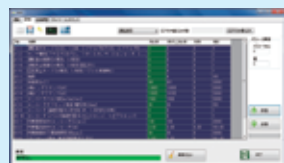
"Universal Inverter Driver" is a motor driver of new ideas packed with SMACH's technologies. Customizable configurations have made it possible to drive a variety of motors. With short delivery time and low cost, SMACH can provide a motor driver that meets each customer's needs. For customization, SMACH's technical coordinators will provide finely tuned support services for even advanced development requests. With detailed parameter settings, SMACH has received high reputation from the professionals of motor driving technologies.



With the customizable configurations, a variety of motors "CAN" be driven.



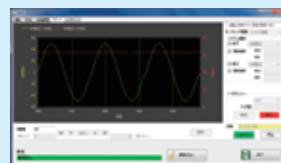
## Engineers with little experience in motor driving technologies "CAN" use S2C (GUI operation software)



**Parameter setting screen**  
Set motor parameters, various controller gains, various control value modulation methods, and carrier frequency, etc.



**Drive control screen**  
Select drive method and command method, control current and advance angle, and monitor speed, motor current, etc.



**Drive status screen**  
Display various operation status such as voltage, current, speed, etc., and time chart.



**Auto tuning screen**  
Automatically measure the electric constant of a motor and offset position of a position sensor.



**Analog output setting screen**  
Set range for analog output such as current.



**Map setting screen**  
Set maximum torque control and field weakening control.

### Specifications of PC Software "S2C"

- Set sensor parameters (such as encoder pulse count), set motor parameter (such as number of poles, R, L,  $\phi_s$ ), set various limit levels (such as current, voltage, number of rotations), switch control methods (such as current vector control), switch command methods (such as current command, number of rotation command, and duty command), and set advance angle values.
- The PC software "S2C" communicates with an inverter through RS-232C. The communications can be customized to meet customer's needs.
- The optional operation board can be selected instead of the "S2C" Inverter parallel operation using CAN or RS-485 or RS-422 is also available.

# Customizable functional units "CAN" expand drive fields

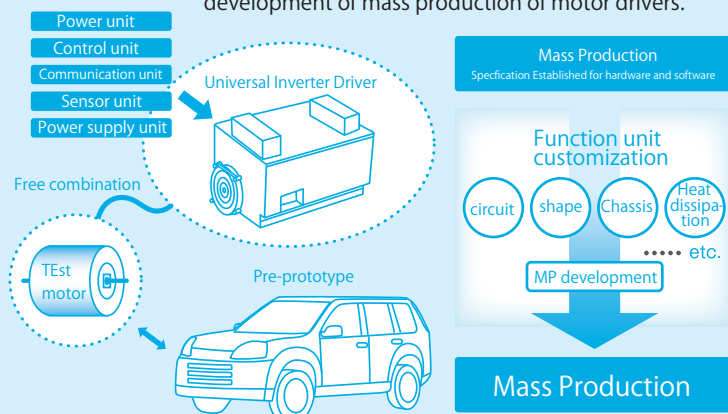


SMACH's flexible technical capabilities "CAN" satisfy new custom needs evolving with time and trend

## Universal Inverter Driver "CAN" be used as:

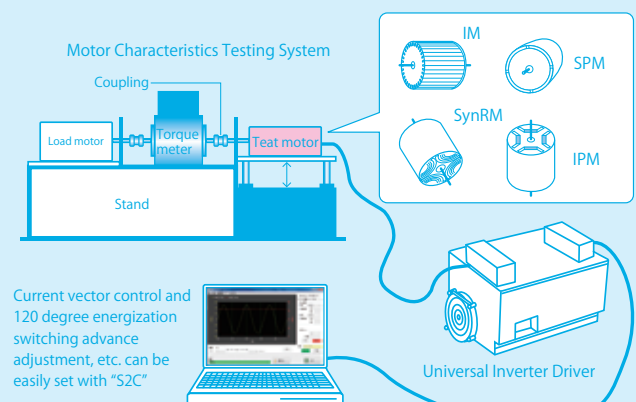
### 1 Pre-prototype driver for mass production development

Customizable functionality units of Universal Inverter Driver help reduce costs and delivery time for development of mass production of motor drivers.

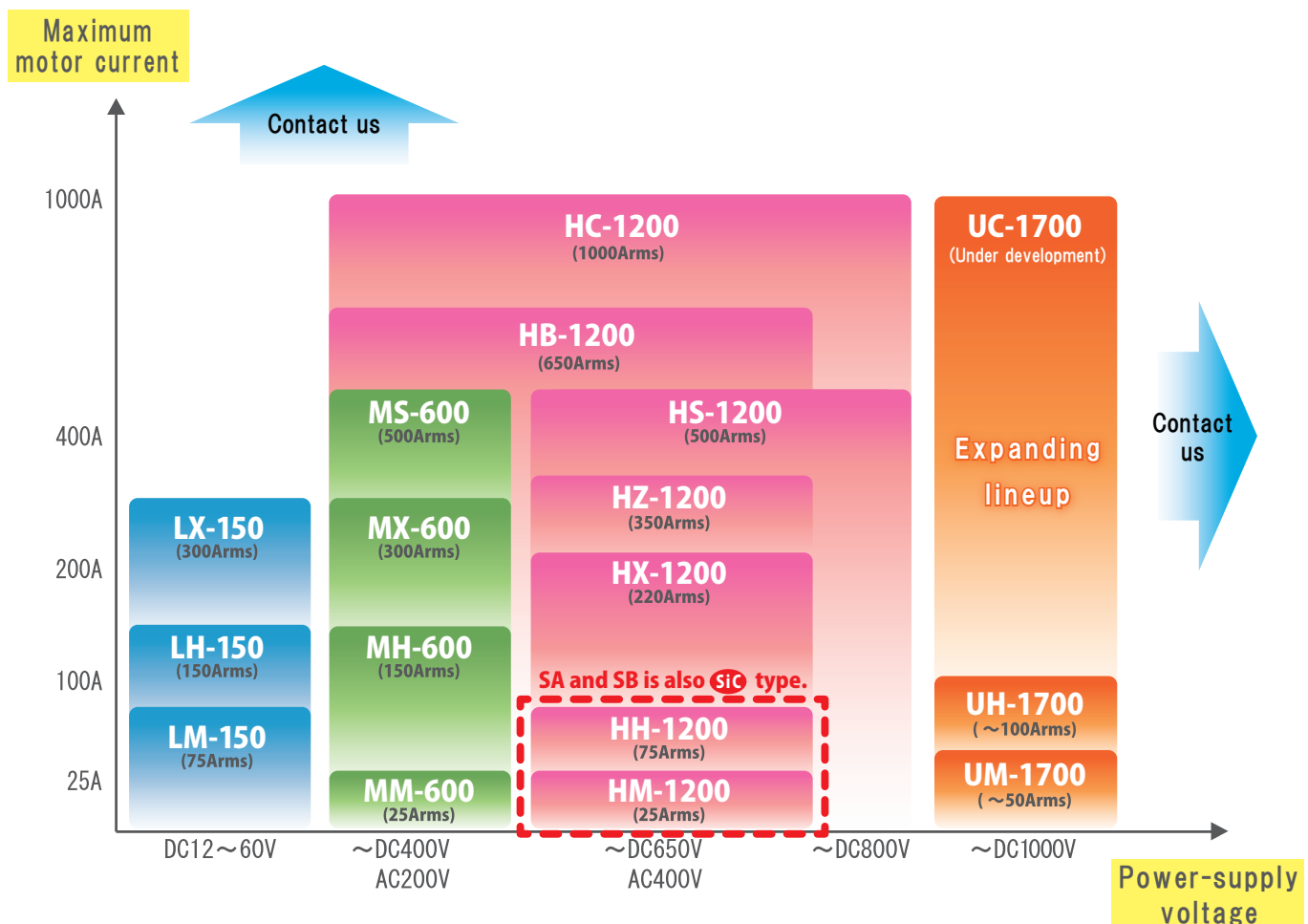


### 2 Driver for special motors in research and development phases

Variety of motors in research and development phases can be driven with customized functional units.



# Specifications of Universal Inverter Drivers



Specifications																			
Body series	L-series (Low-voltage)			M-series (Medium-voltage)				H-series (High-voltage)							U-series (Ultra high-voltage)		SiC-series		
Model name	LM-150	LH-150	LX-150	MM-600	MH-600	MX-600	MS-600	HM-1200	HH-1200	HX-1200	HZ-1200	HB-1200	HS-1200	HC-1200	UM-1700	UH-1700	SA	SB	
Power-supply voltage	DC12V ~ 60V			DC60V ~ 400V				DC300V ~ 650V						DC300V ~ 800V		DC400V~1000V		DC100V ~ 650V	
Maximum motor current	75A	150A	300A	25A	150A	300A	500A	25A	75A	220A	350A	650A	500A	1000A	50A	100A	50A	100A	
Cooling method	Forced air cooling			Forced air cooling			Water cooling	Forced air cooling			Water cooling				Forced air cooling		Forced air cooling		

● Adopted for the Inspection Line of EV motor factory. ● Obtained CE marking. We support export to overseas.

Inverter Driving System	<ul style="list-style-type: none"> <li>Current vector control</li> <li>voltage control (square wave, sine wave)</li> </ul>	Driving Motor	Permanent Magnet Synchronous Motor(IPM, SPM) , SynRM, SRM and Induction motor
Interface	Communication:RS232C, RS422, RS485, CAN, Ethernet(HC) Command by external signal	Rotor angle sensor	<ul style="list-style-type: none"> <li>Resolver</li> <li>Encoder</li> <li>Hall Sensor</li> </ul> ※Sensorless drive is also possible.
Protective Function	Overvoltage • Over current • heating • Overturn, etc.		

※Specifications, etc. are subject to change without notice.

**SMACH CO., Ltd.**

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